



## S3 1000 SERIES

QPL: M83446/09

VARIABLE INDUCTOR



ALL PARTS AVAILABLE AS CLASS S OR CLASS B

MIL-STD-981

Nominal Inductance Range (uH)	Typical Q	Current Rating (mA)
0.018 to 120	22 to 55	22 to 750

### ELECTRICAL SPECIFICATIONS

- **Resistance to Solder Heat:** 260°C for 10 seconds
- **Operating Temperature:** -55°C to +125°C
- **Storage Temperature:** -60°C to +130°C
- **Temperature Rise:** 30°C Max at 90°C Ambient
- **Temperature Coefficient of Inductance**
  - P/N S31000 thru S31011: +125 PPM/oC Max.
  - P/N S31012 thru S31039: +80 PPM/oC Max.
- **Outgassing meets NASA spec SP-R-0022A:** TML < 1%

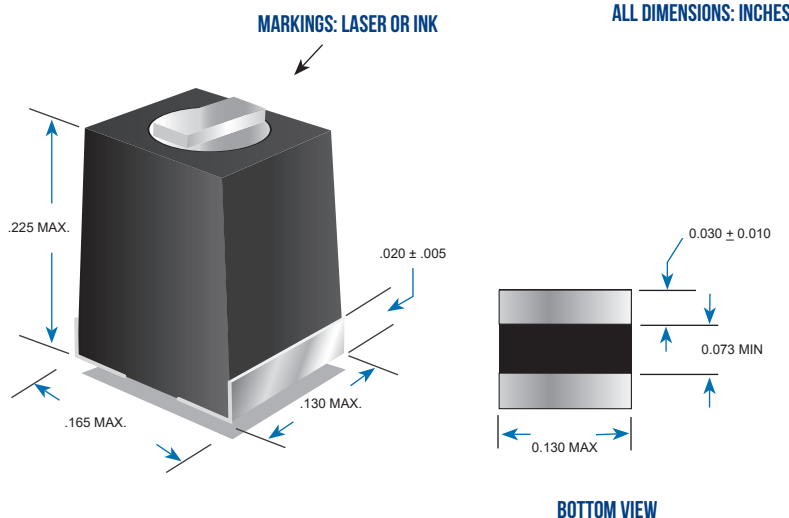
### FEATURES

- **Internal Welded Terminations**
- **Terminations:** Tin-lead over phosphor bronze
- **Optional Terminations on Request:** Gold plated terminations
- **Tape and Reel Packaging Available**
- **Recommended Mounting Technique**
  - Reflow or Vapor Phase Soldering
  - Conductive Epoxy
  - Wire bonding (gold lead only)

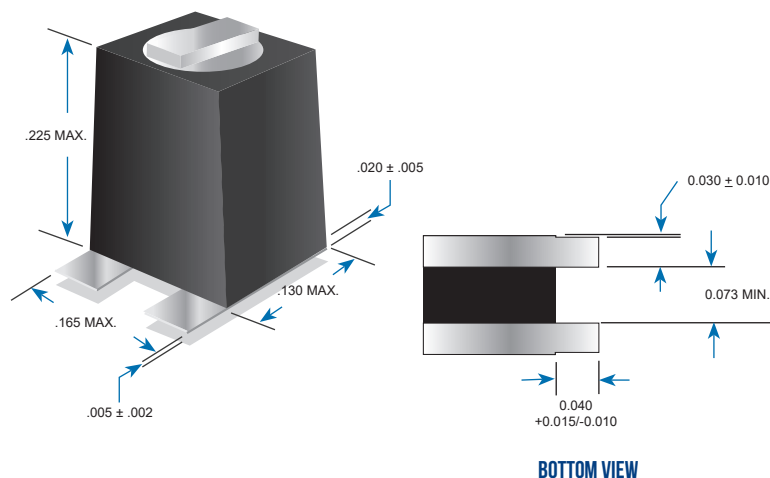
### APPLICATIONS

- **Additional Application Grades Available:**
  - Military Grade (MIL-PRF-83446)
  - Commercial Grade or Equivalent

### NO TABS



### WITH TABS



## S3 1000 SERIES





## DATA TABLE

WITH TAB TERMINATIONS		WITHOUT TAB TERMINATIONS		Inductance (uH)	Test Freq (MHz)	Q Min	SRF Min (MHz)	DCR Max (Ohms)	Current Max (mA)
M83446/09 Dash No.	VE P/N	M83446/09 Dash No.	VE P/N						
-01	S31000	-48	S31000-NT	0.018	150	50	1200	0.03	750
-02	S31001	-49	S31001-NT	0.022	150	55	1100	0.03	750
-03	S31002	-50	S31002-NT	0.027	150	55	1000	0.03	750
-04	S31003	-51	S31003-NT	0.033	150	55	900	0.04	750
-05	S31004	-52	S31004-NT	0.039	150	55	750	0.04	750
-06	S31005	-53	S31005-NT	0.047	100	55	660	0.04	750
-07	S31006	-54	S31006-NT	0.056	100	55	610	0.05	700
-08	S31007	-55	S31007-NT	0.068	100	55	550	0.05	700
-09	S31008	-56	S31008-NT	0.082	100	55	520	0.06	645
-10	S31009	-57	S31009-NT	0.10	100	55	490	0.06	645
-11	S31010	-58	S31010-NT	0.12	50	50	460	0.07	600
-12	S31011	-59	S31011-NT	0.15	50	50	430	0.08	560
-13	S31012	-60	S31012-NT	0.18	50	50	385	0.09	525
-14	S31013	-61	S31013-NT	0.22	50	45	330	0.10	500
-15	S31014	-62	S31014-NT	0.27	50	45	300	0.15	400
-16	S31015	-63	S31015-NT	0.33	50	45	275	0.19	360
-17	S31016	-64	S31016-NT	0.39	50	40	240	0.25	300
-18	S31017	-65	S31017-NT	0.47	25	40	210	0.30	280
-19	S31018	-66	S31018-NT	0.56	25	40	190	0.40	250
-20	S31019	-67	S31019-NT	0.68	25	40	165	0.60	200
-21	S31020	-68	S31020-NT	0.82	25	40	155	0.70	180
-22	S31021	-69	S31021-NT	1.0	25	40	140	0.90	160
-23	S31022	-70	S31022-NT	1.2	25	35	125	1.10	150
-24	S31023	-71	S31023-NT	1.5	7.9	30	115	1.30	135
-25	S31024	-72	S31024-NT	1.8	7.9	30	105	1.70	120
-26	S31025	-73	S31025-NT	2.2	7.9	30	100	2.3	100
-27	S31026	-74	S31026-NT	2.7	7.9	25	85	3.0	90
-28	S31027	-75	S31027-NT	3.3	7.9	25	75	3.9	80
-29	S31028	-76	S31028-NT	3.9	7.9	25	47	3.9	80
-30	S31029	-77	S31029-NT	4.7	7.9	25	30	3.9	80
-31	S31030	-78	S31030-NT	5.6	7.9	22	24	4.0	75

CLASS "B" FROM: 09-32 / 09-79 to 90-47 / 09-94

### CUSTOM DESIGNS & MODIFICATIONS:

Other electrical configurations and performance characteristics are available in various sizes and package types

## S31000 SERIES





## DATA TABLE

WITH TAB TERMINATIONS		WITHOUT TAB TERMINATIONS		Inductance (uH)	Test Freq (MHz)	Q Min	SRF Min (MHz)	DCR Max (Ohms)	Current Max (mA)
M83446/09 Dash No.	VE P/N	M83446/09 Dash No.	VE P/N						
-32	S31031	-79	S31031-NT	6.8	7.9	22	23	4.00	75
-33	S31032	-80	S31032-NT	8.2	7.9	22	22	4.50	72
-34	S31033	-81	S31033-NT	10.0	7.9	22	21	4.50	72
-35	S31034	-82	S31034-NT	12.0	7.9	22	17	5.00	70
-36	S31035	-83	S31035-NT	15.0	2.5	22	15	6.00	65
-37	S31036	-84	S31036-NT	18.0	2.5	22	14	8.00	55
-38	S31037	-85	S31037-NT	22.0	2.5	22	13	10.0	50
-39	S31038	-86	S31038-NT	27.0	2.5	22	11	11.0	45
-40	S31039 ♦	-87	S31039-NT ♦	33.0	2.5	22	10	13.0	43
-41	S31040 ♦	-88	S31040-NT ♦	39.0	2.5	22	9	14.0	42
-42	S31041 ♦	-89	S31041-NT ♦	47.0	2.5	22	8	15.0	40
-43	S31042 ♦	-90	S31042-NT ♦	56.0	2.5	22	7	19.0	36
-44	S31043 ♦	-91	S31043-NT ♦	68.0	2.5	22	6	24.0	32
-45	S31044 ♦	-92	S31044-NT ♦	82.0	2.5	25	5	31.0	28
-46	S31045 ♦	-93	S31045-NT ♦	100.0	2.5	25	4	40.0	25
-47	S31046 ♦	-94	S31046-NT ♦	120.0	2.5	25	3	50.0	22

♦ Note: Part numbers noted are MIL-STD-981, Class "S" compliant with the exception of wire size. All other aspects are met 100%. Contact Vanguard for more information

### VE PART NUMBER STRUCTURE KEY

EXAMPLE: S31001-NT-F-KS

#### TABS

Blank	With Tabs
NT	Without Tabs

#### TERMINATION

F	Tin Lead (Standard)
G	Gold

#### TOLERANCE

M	20%
K	10%
J	5%
*H	3%
*G	2%
*F	1%

\* Consult Factory

#### RELIABILITY

E	EDU
B	CLASS B
S	CLASS S

Tested per MIL-STD-981

## S31000 SERIES



